

SC010500 Unit Outline

Introduction to Scientific Description and Organization

Unit 5: Properties of Materials and Mixtures

Abstract

In this earth science unit children use pictures, local walks, and field trips to explore the variety of surface features found in the nearby environment. Through exploration of the local environment, they investigate surface features such as hills, lakes, and rivers. Pictures, posters, and informational texts help children compare their local surface features with features found in other regions. They explore features found in other locations, such as mountains, valleys, oceans, and deserts. Children learn that land can be flat or hilly, with features such as mountains, plains, or valleys. They also learn that there is water on earth, such as lakes, rivers, oceans, streams or ponds. To conclude the unit, children create models of surface features.

Lesson 1—Take a Trip (SC010501)

In this lesson children observe the different features on the surface of the Earth by visiting a nearby natural area and making observations.

Lesson 2—How Do They Compare? (SC010502)

In this lesson children examine the data they collected on the field trip from the previous lesson to compare the surface features of the Earth.

Lesson 3—Mountains and Hills (SC010503)

In this lesson the children are introduced to a relief map and explore the characteristics of mountains. They make models of mountains and hills.

Lesson 4—The Ocean (SC010504)

In this lesson children explore the characteristics of oceans and use a relief map to locate the oceans of the world. They read about the life in the ocean and learn that the ocean is salty. They conduct an experiment to show buoyancy in the ocean.

Lesson 5—Deserts and Dunes (SC010505)

In this lesson children explore the characteristics of deserts in order to gather information about them. They plan and conduct an experiment to determine how best to survive the heat. They examine the sand dune environment to see that it is much like a desert. Then they create a desert plant or animal and explain its adaptations.

Lesson 6—The Blue Planet (SC010506)

In this lesson children will determine that the Earth is made up mostly of water; they will also compare and contrast the main bodies of water that exist.

Lesson 7—What's in a Pond? (SC010507)

In this lesson children will explore the characteristics of pond habitats by creating a model of one. As a class, they will replicate a pond environment in their classroom.

Lesson 8—Rivers (SC010508)

In this lesson children learn two different characteristics of rivers: how the speed of moving water in a river affects the land and the reason for the shapes of rivers.

Lesson 9—Scavenger Hunt (SC010509)

The children make a book of surface features that demonstrates an understanding of the landforms studied in this unit.

Lesson 10—Putting It All Together in A Model (SC010510)

This is the culminating lesson for the unit. In small groups, the children demonstrate their understanding of the surface features by making a model.

Michigan Benchmarks

I.1.E.5 Develop strategies and skills for information gathering and problem solving.

Tools: Sources of information, such as reference books, trade books, magazines, web sites, other people's knowledge.

Real-World Contexts: Seeking help from or interviewing peers, adults, experts; using libraries, World Wide Web, CD ROM and other computer software, other resources.

II.1.E.2 Show how science concepts can be illustrated through creative expression such as language arts and fine arts.

Key Concepts: Poetry, expository work, painting, drawing, music, diagrams, graphs, charts.

Real-World Contexts: Explaining simple experiments using paintings and drawings; describing natural phenomena scientifically and poetically.

V.1.E.1 Describe the uses of materials taken from the earth.

Key Concepts: Transportation, building materials, energy, water.

Real-World Concepts: Examples of uses of earth materials, such as gravel into concrete walls, gypsum into drywall, sand into glass for windows, road salt, ores into metal for chairs, oil into gasoline for cars, coal burned to produce electricity, water for hydroelectric power. Samples of manufactured materials, such as concrete, drywall, asphalt, iron and steel.

National Science Education Standards

As a result of their activities in this unit, students and teachers can meet the following National Science Education Standards:

Earth Science CONTENT STANDARD D: As a result of their activities in grades K-4, all students should develop an understanding:

- Properties of Earth materials
- Objects in the sky
- Changes in earth and sky.